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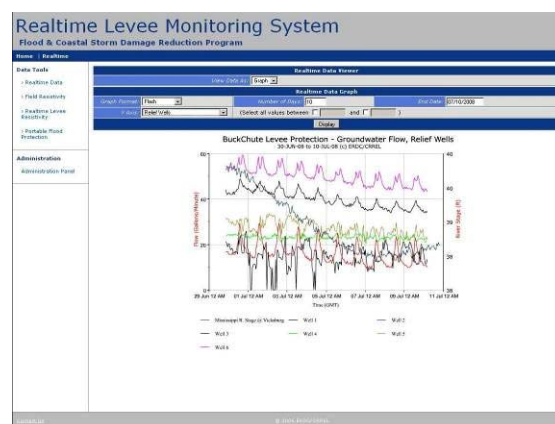
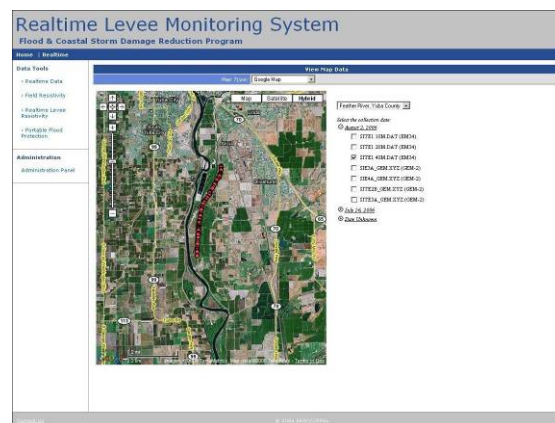
Flood&Coastal Storm Damage Reduction R&D Program

Integrated Levee Monitoring Utility

Description

Geophysical data collected using ground-based field measurements and airborne acquisition systems are common when determining levee stability and identifying potential problem areas during flood events. This work focuses on integrating near real-time measurements from ground-based EM31, EM34, GEM2 resistivity, HERO airborne data, and other relevant geospatial information within an Oracle relational database for Web-based data ingestion, mapping, management and dissemination.

Geophysical surveys such as resistivity involve not only time consuming data acquisition methods but significant post-processing to develop useable products for analysis. Using relational and geospatial database structures, a Web interface has been created that allows researchers and personnel involved in field data collection to interact with their data in near real-time through a secure Web-based interface. Field data can be uploaded by the user directly to a common database where it can then be analyzed via graphs and tables. Since the data acquire simultaneous Global Positioning System (GPS) information, these data can then be displayed with street level mapping and satellite data via a dynamic map interface (Google maps or Oracle map viewer). Furthermore, users can manage their data collections efficiently through metadata management and access original and modified data files for further client-side analysis. This system is designed to be highly expandable so that with minimal effort, other field related projects and datasets may be easily incorporated.



Benefits

Field personnel from Corps Districts, the Federal Emergency Management Agency (FEMA), and federal, state, and local agencies involved in field based data acquisition of geophysical and geospatial information during routine and emergency situations will benefit from this application. The Integrated Levee Monitoring Utility allows for near real-

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time access and analysis of information derived in the field and dissemination of this information to managers and emergency personnel.

Status Currently the Integrated Levee Monitoring Utility is near the end of its initial development phase and ready for Beta deployment to field personnel. A production level release is scheduled for FY09. Additional capabilities will include integrating the system closely with the Corps Water Management System (CWMS), Englink, and the National Levee Database to capture other time-sensitive geospatial information.

Distribution Source(s) Access to the Beta version of the Integrated Levee Monitoring Utility Web site can be obtained by contacting David Finnegan at U.S. Army Research and Development Center-Cold Regions Research and Engineering Laboratory (ERDC-CRREL).

Available Documentation Currently there is no available documentation.

Available Training There is currently no organized training, but demonstrations are available on request.

Available Support Application support can be obtained by contacting David Finnegan at ERDC-CRREL

Application Testing is being conducted at the ERDC-CRREL and ERDC-Geotechnical and Structures Laboratory (GSL). Data from Buck Chute Bayou, Eagle Lake, Mississippi is also being obtained.

Point of Contact David Finnegan, Cold Regions Research and Engineering Laboratory, U.S. Army Engineer Research and Development Center, Hanover, NH. (603) 646-4106 E-mail: David.Finnegan@usace.army.mil

Partners N/A.